

REMARKS

Applicants thank the Examiner for the thorough consideration given the present application. Claims 1-4 remain under consideration. Claims 5-23 have been withdrawn. The Examiner is respectfully requested to reconsider his rejections in view of the amendments and remarks as set forth.

Claim Objections

The Examiner objected to claims 1-3 due to improper grammar regarding the phrase involving the periodic structure. By way of the present Amendment, the Applicants have reworded this phrase in claims 1-3 in the manner suggested by the Examiner. Accordingly, this objection is believed to be overcome.

Rejection under 35 U.S.C. § 112

Claims 1-4 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. This rejection is respectfully traversed.

The Examiner objected to the use of the construction “to be” for laminated or located. By way of the present Amendment, Applicants have amended this language. In regard to the lamination, Applicants have used “and”. In regard to “located” in claims 2 and 3, the entire phrase has been removed since it is repeated in the following paragraph. Other minor changes have been made in order to make the language of the claims more readable.

Rejection under 35 U.S.C. § 102

Claim 1 stands rejected under 35 U.S.C. § 102 as being anticipated by Noda (CA 2330866). This rejection is respectfully traversed.

First, it is noted that the publication date of this Canadian application is July 13, 2001. Applicants submit that this publication may not be used as reference against the present claims due to its date. That is, the priority date of the present application is July 27, 2001, some twenty days after the publication date of the Canadian reference. However, Applicants submitted a Declaration under 37 C.F.R. § 1.131 along with the previous Amendment on February 10, 2004 to establish the conception date of August 10, 2000. The Examiner has already accepted this Declaration in regard to the Aoki et al. (IEEE publication), which had a date no later than July 19, 2001. Applicants submit that the already accepted 131 Declaration causes the present invention to predate this Canadian application as well. Accordingly, Applicants submit that this reference has also been removed.

Furthermore, Applicants wish to point out a difference in the technology between the claimed invention and the Noda reference. In the reference, the layers are fused together in a process known as “wafer fusion.” This means that the three dimensional crystals form chemical bonds by heating to cause the boundary of the materials to disappear and to cause a fusion bond. Thus, this lamination is formed by adhering and fixing the layers and then heating to cause this fusion. This must be done every time a layer is laminated, which becomes a very complex process for the manufacturer. This type of fusion bond is performed under high temperature with mechanical pressure. In addition, conditions must be such that the heating does not cause a

chemical change in the materials, so that the materials must have sufficient structural strength and are not deformed by temperature and pressure.

In the present invention, on the other hand, the lamination is caused merely by stacking. The layers are fixed by a positioning member embedded in through holes so that additional fixing is not needed and it is not necessary to perform a fusion bond. It is only necessary that the layers of two dimensional crystals contact each other. Clearly, this arrangement is superior in its simplicity to wafer fusion which requires the application of heat for each layer to be laminated.

The Examiner has already indicated that claims 2-4 define over this reference. In addition, Applicants have now amended claim 1 to refer to the step of laminating as "laminated by stacking". This is to differentiate over other types of laminating where, for example, heat must be added. The present invention is a much simplified arrangement compared to that of Noda. In view of this, Applicants submit that claim 1 is also not anticipated by Noda.

Conclusion

In view of the above remarks, it is believed that the claims clearly distinguish over the patent cited by the Examiner. In view of this, reconsideration of the rejections and allowance of all the claims is respectfully requested.

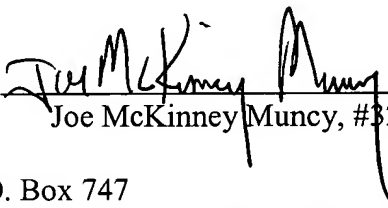
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert F. Gnuse (Reg. 27,295) at the telephone number of the undersigned below.


Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petition(s) for a one (1) month extension of time for filing a reply in connection with the present application, and the required fee of \$110.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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